

Claims:

1. A compound 8 to 80 nucleobases in length targeted to a nucleic acid molecule encoding extracellular-signal-regulated kinase-6, wherein said compound specifically hybridizes with said nucleic acid molecule encoding extracellular-signal-regulated kinase-6 and inhibits the expression of extracellular-signal-regulated kinase-6.
2. The compound according to claim 1, wherein said extracellular-signal-regulated kinase-6 is human extracellular-signal-regulated kinase-6 SEQ ID NO: 4, and wherein said compound specifically hybridizes to a sequence of at least 8 consecutive nucleotides within nucleotides 197 to 1631 of SEQ ID NO: 4 and inhibits expression of said extracellular-signal-regulated kinase-6.
3. The compound according to claim 2, wherein said expression is inhibited by at least 40% as measured by a suitable assay.
4. The compound according to claim 1, wherein said extracellular-signal-regulated kinase-6 is murine extracellular-signal-regulated kinase-6 SEQ ID NO: 72, and wherein said compound specifically hybridizes to a sequence of at least 8 consecutive nucleotides within nucleotides 4 to 1729 of SEQ ID NO: 72 and inhibits expression of said extracellular-signal-regulated kinase-6.
5. The compound according to claim 4, wherein said expression is inhibited by at least 60% as measured by a suitable assay.
6. The compound according to claim 1, wherein said extracellular-signal-regulated kinase-6 is murine extracellular-signal-regulated kinase-6 SEQ ID NO: 73, and

wherein said compound specifically hybridizes to a sequence of at least 8 consecutive nucleotides within nucleotides 87-1543 of SEQ ID NO: 72 and inhibits expression of said extracellular-signal-regulated kinase-6.

7. The compound according to claim 6, wherein said expression is inhibited by at least 60% as measured by a suitable assay.

8. The compound according to claim 1, wherein said extracellular-signal-regulated kinase-6 is murine extracellular-signal-regulated kinase-6 SEQ ID NO: 74, and wherein said compound specifically hybridizes to a sequence of at least 8 consecutive nucleotides within nucleotides 25-662 of SEQ ID NO: 74 and inhibits expression of said extracellular-signal-regulated kinase-6.

9. The compound according to claim 8, wherein said expression is inhibited by at least 60% as measured by a suitable assay.

10. The compound according to claim 1, wherein said extracellular-signal-regulated kinase-6 is murine extracellular-signal-regulated kinase-6 SEQ ID NO: 75, and wherein said compound specifically hybridizes to a sequence of at least 8 consecutive nucleotides within nucleotides 455-827 of SEQ ID NO: 75 and inhibits expression of said extracellular-signal-regulated kinase-6.

11. The compound according to claim 10, wherein said expression is inhibited by at least 60% as measured by a suitable assay.

12. The compound according to claim 1, wherein said extracellular-signal-regulated kinase-6 is murine extracellular-signal-regulated kinase-6 SEQ ID NO: 76, and

wherein said compound specifically hybridizes to a sequence of at least 8 consecutive nucleotides within nucleotides 106-1224 of SEQ ID NO: 76 and inhibits expression of said extracellular-signal-regulated kinase-6.

13. The compound according to claim 12, wherein said expression is inhibited by at least 60% as measured by a suitable assay.

14. The compound according to claim 1, wherein said extracellular-signal-regulated kinase-6 is murine extracellular-signal-regulated kinase-6 SEQ ID NO: 77, and wherein said compound specifically hybridizes to a sequence of at least 8 consecutive nucleotides within nucleotides 495 to 515 of SEQ ID NO: 77 and inhibits expression of said extracellular-signal-regulated kinase-6.

15. The compound according to claim 14, wherein said expression is inhibited by at least 60% as measured by a suitable assay.

16. The compound according to claim 1, which is an antisense oligonucleotide.

17. The compound according to claim 16, wherein the antisense oligonucleotide comprises at least one modified internucleoside linkage.

18. The compound according to claim 17, wherein the modified internucleoside linkage is a phosphorothioate linkage.

19. The compound according to claim 16, wherein the antisense oligonucleotide comprises at least one modified sugar moiety.

20. The compound according to claim 19, wherein the modified sugar moiety is a 2'-O-methoxyethyl sugar moiety.

21. The compound according to claim 16, wherein the antisense oligonucleotide comprises at least one modified nucleobase.

22. The compound according to claim 21, wherein the modified nucleobase is a 5-methylcytosine.

23. The compound according to claim 16, wherein the antisense oligonucleotide is a chimeric oligonucleotide.

24. A composition comprising the compound of claim 1 and a pharmaceutically acceptable carrier or diluent.

25. The composition according to claim 24, further comprising a colloidal dispersion system.

26. The composition according to claim 24, wherein the compound is an antisense oligonucleotide.

27. A method of inhibiting the expression of extracellular-signal-regulated kinase-6 in cells or tissues comprising contacting said cells or tissues with the compound of claim 1 so that expression of extracellular-signal-regulated kinase-6 is inhibited.

28. A method of treating an animal having a disease or condition associated with extracellular-signal-regulated kinase-6 comprising administering to said animal a therapeutically or prophylactically effective amount of the compound of claim 1 so that expression of extracellular-signal-regulated kinase-6 is inhibited.

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29. The method according to claim 28, wherein the disease or condition is a hyperproliferative disorder.

30. The method according to claim 29, wherein the hyperproliferative disorder is cancer.

31. The method according to claim 29, wherein the disease or condition is an inflammatory disorder.

32. The method according to claim 29, wherein the disease or condition is a neurodegenerative disorder.

33. The method according to claim 32, wherein the neurodegenerative disorder is Alzheimer's disease.

34. A method for inhibiting angiogenesis in a mammal, the method comprising administering to a mammalian tissue a therapeutically effective amount of a compound of claim 1 in or near said tissue, whereby angiogenesis is inhibited.

35. The method according to claim 34, wherein the inhibitor prevents degradation of extracellular matrix for new blood vessel formation.

36. The method according to claim 34, wherein the inhibitor prevents tubular formation of blood vessels.

37. The method according to claim 34, wherein the compound is an antisense compound.

38. The method according to claim 34, wherein said compound is selected from the group consisting of a ribozyme, an siRNA, an antisense oligonucleotide, a peptide nucleic acid, a morpholino compound and a locked nucleic acid.

39. The method according to claim 38, wherein the antisense compound is an antisense oligonucleotide.

40. The method according to claim 34, wherein the administration is selected from the group consisting of topical, intratracheal, intranasal, epidermal, transdermal, oral, parenteral, intravenous, intraarterial, subcutaneous, intraperitoneal or intramuscular, intracranial, intrathecal, and intraventricular.

41. The method according to claim 34, wherein at least one additional drug is administered in combination with said compound.

42. A method for preventing degradation of an extracellular matrix of mammalian tissue, the method comprising the step of inhibiting extracellular-signal-regulated kinase-6 expression in a cell of said tissue, thereby inhibiting the degradation of the extracellular matrix.

43. A method of inhibiting angiogenesis in a mammalian tissue comprising inhibiting migration of endothelial cells through the extracellular matrix by contacting said cells with a compound of claim 1.

44. A method of reducing the growth of new blood vessels supplying a tumor in mammalian tissue comprising contacting said tissue with a compound of claim 1.

45. A method for preventing tubular formation of blood vessels, the method comprising the step of inhibiting a extracellular-signal-regulated kinase-6 in a cell, thereby inhibiting the formation of blood vessels.

46. A method for treating an angiogenic disease in a mammal, the method comprising the step of administering to the mammal

in need thereof a therapeutically effective amount of a compound of claim 1.

47. A method of inhibiting blood vessel formation in mammalian tissue by reducing expression of integrin mRNA in cells of said tissue.

48. The method according to claim 47, comprising contacting said cells with an effective amount of a compound of claim 1.

49. A duplexed antisense compound comprising:

(a) a nucleobase sequence 8 to 80 nucleobases in length targeted to a nucleic acid molecule encoding extracellular-signal-regulated kinase-6 with at least one natural or modified nucleobase forming an overhang at a terminus of said sequence; and

(b) the complementary sequence of said sequence (a) having optionally at least one natural or modified nucleobase forming an overhang at a terminus of said complementary sequence;

wherein said sequences (a) and (b), when hybridized, have at least one single-stranded overhang at at least one of terminus of said hybridized duplex, and wherein said duplex when interacted with a nucleic acid molecule encoding extracellular-signal-regulated kinase-6 can modulate the expression of said extracellular-signal-regulated kinase-6.

50. Use of a therapeutically or prophylactically effective amount of the compound of claim 1 in the preparation of a medicament for treating an animal having a disease or condition associated with extracellular-signal-regulated kinase-6, so that expression of extracellular-signal-regulated kinase-6 is inhibited.

51. Use according to claim 50, wherein the disease or condition is a hyperproliferative disorder.

52. Use according to claim 50, wherein the hyperproliferative disorder is cancer.

53. Use according to claim 50, wherein the disease or condition is an inflammatory disorder.

54. Use according to claim 50, wherein the disease or condition is a neurodegenerative disorder.

55. Use according to claim 54, wherein the neurodegenerative disorder is Alzheimer's disease.

56. Use of a therapeutically effective amount of a compound of claim 1 in the preparation of a medicament for inhibiting angiogenesis in a mammal.

57. Use according to claim 56, wherein the inhibitor prevents degradation of extracellular matrix for new blood vessel formation.

58. Use according to claim 56, wherein the inhibitor prevents tubular formation of blood vessels.

59. Use according to claim 56, wherein the compound is an antisense compound.

60. Use according to claim 56, wherein said compound is selected from the group consisting of a ribozyme, an siRNA, an antisense oligonucleotide, a peptide nucleic acid, a morpholino compound and a locked nucleic acid.

61. Use according to claim 56, wherein the antisense compound is an antisense oligonucleotide.

62. Use according to claim 56, wherein said medicament contains at least one additional drug in combination with said compound.

63. Use of a compound of claim 1 in the preparation of a medicament for contacting endothelial cells and inhibiting migration thereof through the extracellular matrix.

64. Use of a compound of claim 1 in the preparation of a medicament for reducing the growth of new blood vessels supplying a tumor in mammalian tissue.

65. Use of a compound of claim 1 in the preparation of a medicament for reducing expression of integrin- β mRNA in mammalian tissue.